Space Weather Forecast

Issued on Friday, 19 November 2021 at 00:34 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of G1/Minor geomagnetic storms this weekend.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Very Low over the last 24 hours, with no significant X-ray flare activity observed. There are two active sunspot regions on the visible disc: AR2896 and AR2897. Both regions are small, weak, magnetically simple, stable and located in the eastern hemisphere.

No Earth-directed Coronal Mass Ejections (CMEs) have been observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind parameters indicate a very gradual exit from the enhanced solar wind that arrived a few days ago. The solar wind speed started the period at elevated levels ranging between 520-540 km/s, then gradually declined to end the day at slightly elevated levels around 490 km/s. The strength of the magnetic field was weak, while the important north-south component of the magnetic field was either positive or very weakly negative. Therefore, despite the strength of the solar wind, geomagnetic activity was Quiet throughout.

Energetic Particles / Solar Radiation: No solar radiation storms have been observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be very low, with a daily 10% slight chance of common-class flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs in the current forecast. The coronal hole forecast comprises of a continuing slow decline from the current slightly elevated solar wind, before being boosted in strength again from late tomorrow as the influence of another coronal feature arrives. Geomagnetic activity is expected to be Quiet today and for much of tomorrow (20th Nov), before increasing predominantly Unsettled to Active from late tomorrow, with a chance of Minor geomagnetic storms thereafter.

Energetic Particles / Solar Radiation: No solar radiation storms are expected.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	30	40	30
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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